



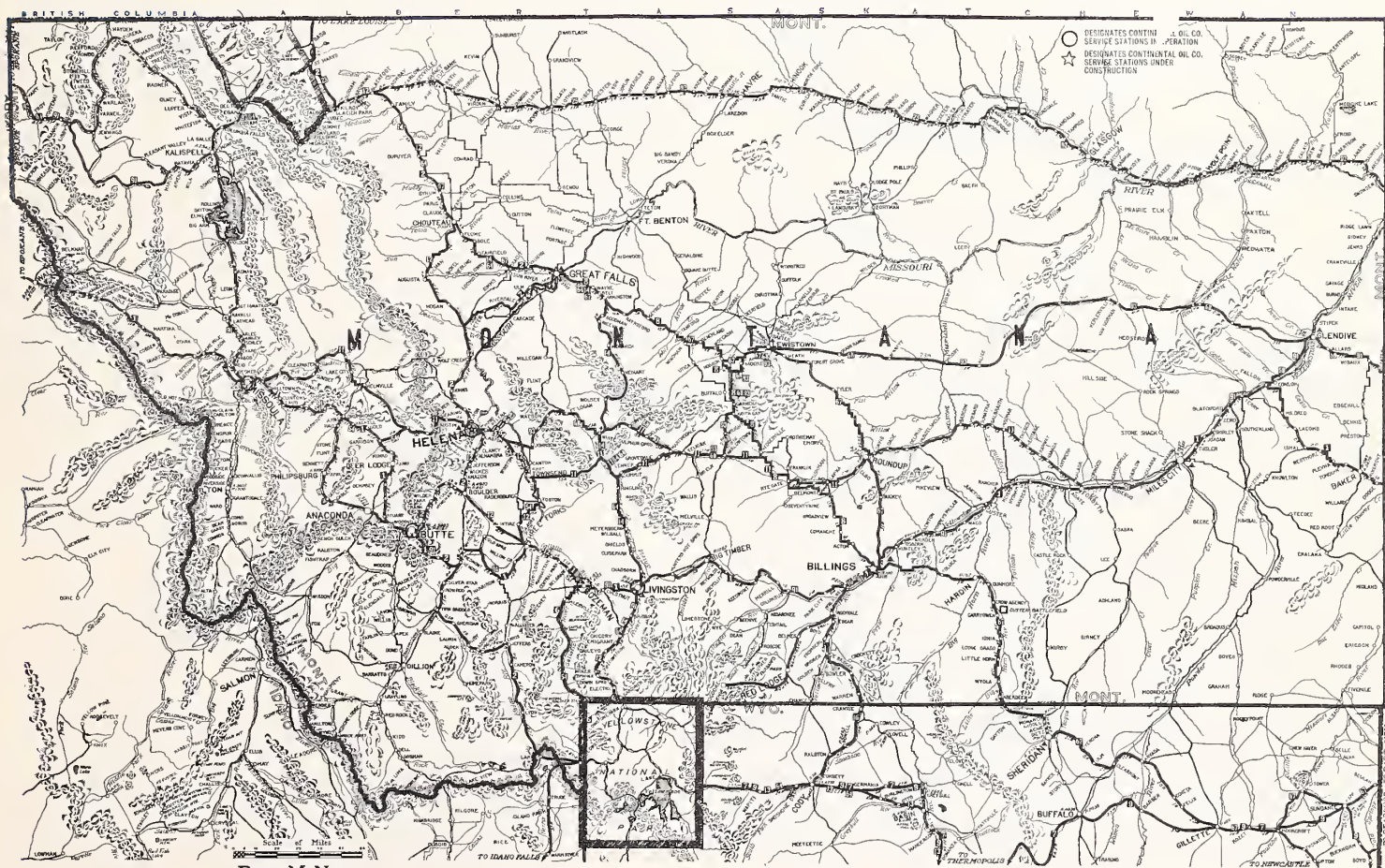
THE CENTER LINE

MONTANA HIGHWAY COMMISSION

Vol. IV, No. 7

July, 1963

FROM TRAILS TO INTERSTATE



RAND McNALLY
OFFICIAL 1921

AUTO TRAILS MAP STATE OF MONTANA

TRAILS		POPULATION FIGURES (1927 MILEAGE SHOWN)	
MAIN AUTO ROADS		ALTITUDE ABISSES	
RIVER OR STREAM		NOTE: STATIONS AND JUNCTION POINTS ON TRAILS	
TRAIL MARKINGS		TOURIST FREE CAMP GROES	
1 YELLOWSTONE TRAIL	2 BUFFALO TRAIL	3 YELLOWSTONE RY	4 GREAT WHITE WY
5 NATIONAL PARKS	6 NATIONAL PARKS	7 YELLOWSTONE CLACROSLINE	8 RED TRAIL
9 BAFF-GRAND CANYON ROAD	10 NATIONAL PARKS	11 BILLINGS CONN RD	12 NATIONAL PARKS
13 GALLATIN WAY	14 ELECTRIC HIGHWAY	15 GLACIER TRAIL	16 THRO ROOSEVELT
17 BLACK YELLOW TRAIL	18 GEYSERS TO	19 CLUSTER BATTLE	20 CENTRAL MONTANA HIGHWAY

IN THE EARLY DAYS OF THE AUTOMOBILE, COLOR MARKINGS AND SYMBOLS DENOTED OUR MAJOR HIGHWAYS. THIS MAP, DONATED TO THE HIGHWAY DEPARTMENT BY JIM RISHER OF MILES CITY DENOTES THE MAJOR ROADS IN MONTANA JUST PRIOR TO THE ESTABLISHMENT OF THE PRIMARY SYSTEM.



GOVERNOR

Tim Babcock

STATE HIGHWAY COMMISSION

Roy L. Sorrells.....Chairman
 S. N. Halvorson.....Vice-Chairman
 J. M. Nass.....Member
 George M. Gosman.....Member
 Ted James.....Member
 John D. Wheeler.....Secretary

STATE HIGHWAY DEPARTMENT

Fred Quinnell, Jr.....State Highway Engineer

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 Ernest A. Neath.....Associate Editor
 Chet Dreher.....Photographer
 Kenneth L. Martello.....Artist

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Naturally this route involved hundreds of miles of unnecessary travel along with the inconvenience of crossing and recrossing the Rocky Mountains. The governor was sure a more feasible route could be established. However, the only action the first legislative assembly took was to grant charters to some thirty-five old toll bridges, ferry and wagon roads. All required maintenance was left up to private owners who were able to do so from lack of legislation creating free public roads, bridges and etc.

In 1865 orders were sent out from Washington to survey a new wagon road cut-off to the mines of Montana. It was to leave Overland Trail near Fort Laramie, proceeding in a northerly direction across the Big Horn and on to the Yellowstone. From there it continued across Bozeman Pass into the valley of the Gallatin and over the mountains to Virginia City. This road became known as the "Bozeman Trail".

The Second Legislative Assembly contributed nothing to the solution of the road problems of Montana. Nothing really happened until the fifth Legislature when road building and maintenance plans for free public roads in the Territory of Montana was steadily growing and finally led to its first Legislative Enactment in 1869. The 5th Legislature in Montana Territory placed public road building into the hands of the counties and county commissioners.

The legislature each session added new acts and revised old ones, but kept the supervision and financing of the roads within the counties.

In the 13th Legislative Assembly an act was passed which created a State Highway Commission. It was approved March 13, 1913.

The commission consisted of 3 members. They included a professor of civil engineering at Montana State College, and the State Engineer, ex officio, and a civil engineer appointed by the governor to be secretary of the Commission.

The duties of the commission were to give advice, assistance and supervision.

March 15, 1917 the 15th Legislative Assembly revised the State Highway Commission and the membership was raised to 12

AWARD SHEET Project No.	Amount of Bid	Bidder	Address Letting of June 26, 1963
I 90-1(20)75 & I 90-(2)78 Alberton East & West & the Alberton East (Signing) Mineral & Missoula Counties	\$ 14,082.97	Tschache Bros	Bozeman, Mont.
I 90-2(22)108 Van Buren St. in Missoula to Bonner (Bridges) Missoula County	\$767,908.24	Pew Constr. Co. & Pew Bridge Co.	Missoula, Mont.
F 87(12) Plains-Elmo (Road) Sanders County	\$214,408.28	Schultz & Lindsay Constr. Co.	Fargo, N.D.
F 103(12) Lewistown-Roy (Road) Fergus County	\$342,695.90	Peter Kiewit Sons' Co.	Billings, Mont.
F 187(13), F 230(7) & U 296(14) Billings-Hardin, Billings-East & the Billings Airport Intersec- tion (Signing & Lighting) Yellowstone County	\$ 16,017.92	Midland Electric Co	Billings, Mont.
F 209(4) Gallatin Gateway-Bozeman (Road & Bridges) Gallatin County	\$471,102.29	R. J. Sundling & Son, Inc.	Livingston, Mont.
U 277(6) & U 388(6) E. Bank Missouri River-10th Ave. S. By Pass & the Sun River-10th Ave. S. in Great Falls (Signals, Signing & Road) Cascade County	\$208,380.87	Montana Sand & Gravel	Great Falls, Mont.
S 200(5) Froid-West (Road) Roosevelt County	\$224,581.28	Hilling Const. Co., Inc.	Williston N.D.
S 368(17) Glasgow-Opeim Canadian Line (Road) Valley County	\$279,870.50	Gus M. Albert	Miles City, Mont.
June Letting Total: \$2,330,667.38 Total Amount to Date: \$24,148,174.94			

FIFTY YEARS OF HIGHWAY PROGRESS

It all began way back on December 24, 1864 when the governor issued a message to the territorial legislature suggesting a road be constructed to the states.

All immigration and freight traveled by way of Fort Laramie, South Pass and the Lander Road, or South Platte, through Bridger's pass and the Great Salt Lake City.

members, with one representative from each of 12 districts. The districts were as follows: 1-Lincoln, Flathead, Sanders; 2-Mineral, Missoula, Ravalli; 3-Beaverhead, Madison, Gallatin; 4-Silver Bow, Deer Lodge, Granite; 5-Lewis and Clark, Broadwater, Powell, Jefferson; 6-Cascade, Musselshell, Meagher, Fergus; 7-Choteau, Teton, Hill, Toole; 8-Blaine, Sheridan, Valley, Phillips; 9-Carbon, Stillwater, Sweet Grass, Park; 10-Rosebud, Yellowstone, Big Horn; 11-Custer, Prairie, Fallon; 12-Wibaux, Dawson, Richland.

This is a brief summary of highway accomplishments in early day Montana. They were but a start towards the great highway system we have today.

TIMES DO CHANGE!

The following letter written to Mr. John N. Edy, Highway Commission Chief Engineer, in 1919 gives us an indication of the change that has taken place in the last 40 to 50 years:

Mr. John N. Edy,
Chief Engineer,
State Highway Commission,
Helena, Montana.

Dear Sir:

Reference RSZ/ml 2744 - Cost data on work done by Poore's party in Lewis and Clark County.

Party consists of four men as follows:

- 1 Locating Engineer at \$8.00 per day
- 1 Instrumentman at \$150.00 per mo.
- 2 Chainmen at \$4.00 per day each.

No expenses were allowed. We use a county car which costs us nothing except gas and oil. Nearly one mile of survey was through the town of East Helena where detailed data was gotten, 15 to 20 shots being taken on each cross section.

Locating engineer set points ahead with car, transitman followed with location line setting nails each 100 feet, taking topography as line advanced. Locating Engineer figured curves and kept notes. This was done for distance depending on weather conditions. Then Locating Engineer ran level, taking profile and cross sections at same operation with party assisting. Check levels were run over entire line.

Detailed costs are as follows:

Salaries of men	\$325.00
Transportation	12.00
Incidentals	4.20

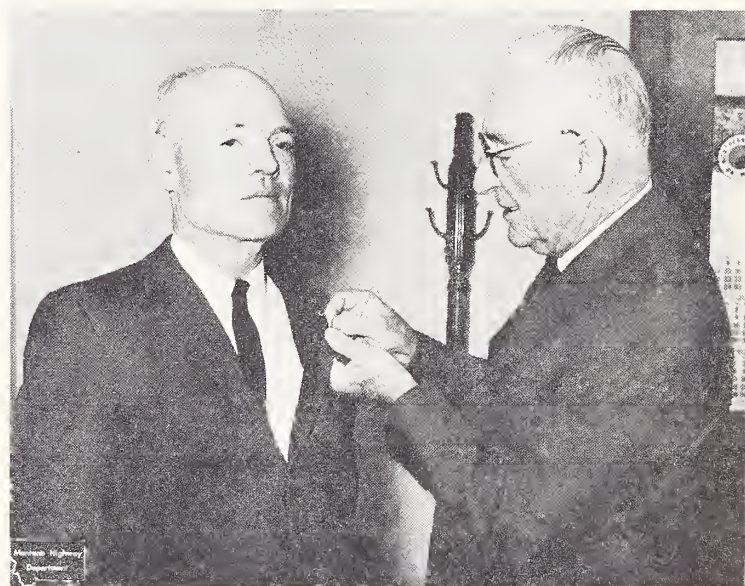
Total	\$341.20
Length of Road	9.2 miles
Alternate Line	2.0 miles
Total Surveys	11.2 Miles
Cost per mile	\$30.46

Bad weather was spent in the office platting notes and plans. The chainmen were laid off at such times.

This is an unusual case, but clearly shows what can be done. This work was done during the stormy period November 10th, with lots of snow and zero weather. Work was done within the 8 hour limit with no work at nights or after hours.

Yours very truly,
W. M. Spann,
District Engineer

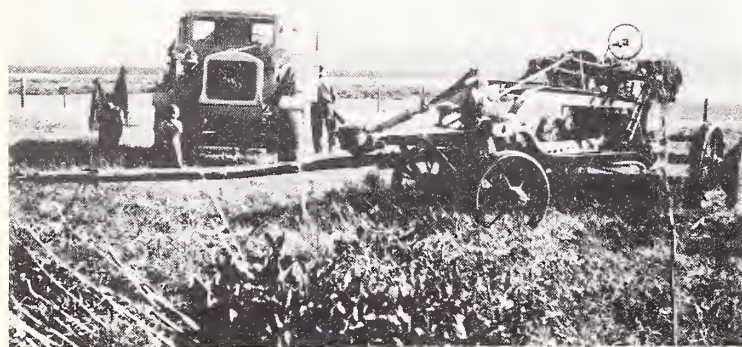
OLDEST EMPLOYEE HONORED



Lorn F. Hardie, division mechanic for the Montana Highway Department, receives his pin for 40 years of service. Commission Chairman Roy Sorrels makes the presentation at the commission meeting in Helena.

Hardie, the oldest employee in continuous years of service, was congratulated for his loyalty and devotion to duty by Chairman Sorrels, and the other commissioners echoed the words of praise.

The two pictures below are examples of the type of machinery used in the early days of Mr. Hardie's career with the highway department. They were taken from his personal scrapbook.



AASHO DESIGN CONFERENCE HERE

Montana will host the 1963 AASHO Committee on Design Conference, July 31 and August 1.

The meetings will be held at the Placer Hotel, according to M. R. Wickman and G. B. Woodahl who constitute the committee on arrangements.

Governor Tim Babcock will welcome the guests to Montana, Commission Chairman Roy Sorrells, and State Highway Engineer Fred Quinnell, Jr., will address the group on the opening day of the session.

Among the guests will be Ray Reavley, Chairman of the Montana Highway Users Conference, from Great Falls.

Those who will be leading the topics for discussion are: Hydraulics-Frank W. Leon-

ard, Chief Design Engineer, Idaho Department of Highways, Boise; Medians-A. Zulian, Engineer of Survey and Plans, Colorado Department of Highways, Denver; Use of Critical Path Method Technique In Controlling Production-W. L. Warren, Engineer of Design, Department of Public Works, Division of Highways, Sacramento, California; Preconstruction Policies-Lloyd P. Shaw, Assistant State Highway Engineer, State Highway Department, Salem, Oregon; Interchange Design-V. G. Rinehart, Engineer of Plans and Contracts, Washington Department of Highways, Olympia, Washington; Design Criteria-D. J. Crosby, Chief Road Designer (Interstate), Nevada Department of Highways, Carson City, Nevada; Structural Design of Roadway-Wallace J. Liddle, Chief Materials Engineer, Utah State Department of Highways, Salt Lake City; Problems Facing the Designer In Order to Satisfy Signing, Marking and Other Traffic Operational Standards-K. E. Cottingham, Traffic Engineer (District 7), Washington Department of Highways, Olympia, Washington.

Others on the program include; George Langsner, Chairman of the AASHO operating Committee on Design, Assistant State Highway Engineer, California Division of Highways, and James L. Shotwell, Special Assistant for Engineering Coordination, Bureau of Public Roads, Washington, D. C.

SUPERVISION'S RESPONSIBILITIES

Sometimes when the development of subordinates is disappointing, it may be due to the poor influence of the supervisor. A supervisor may create barriers to the growth of his subordinates without even knowing it.

When a man first joins an organization, it is obvious that he will know very little about what he has to do and how he is to do it. However, in time, he will begin to learn his particular job and usually becomes competent. Then the supervisor must realize the employee's increased competence and stop judging him by the standards he used when he was learning the ropes. The supervisor should not expect—or permit—the subordinate to follow exactly in his foot-steps. If this happens the super-

(Continued on Page 9)

FEDERAL AID PRIMARY PROJECTS

101	F 191 (19) U 1	9-1-63	5.6 mile grading, drainage, surfacing, plant mix bituminous & seal coat oiling. (U. S. 93 - S. of Kalispell).
102	F 207 (8)	9-30-63	0.2 mile grading, drainage, surfacing, plant mix bituminous & seal coat oiling. (U. S. 10 - In Butte).
	U-F 242 (16)	10-31-63	0.8 miles grade, drain, surface & plant mix bituminous surfacing. (U. S. 91 - In Butte).
	F 279 (4)	9-30-63	0.5 mile grade, drain, surface, plant mix bituminous & seal coat oiling. (U. S. 10 - ByPass - In Butte).
103	FHP 6-1 (1)*	1963	6.5 miles grade, drain, base & bituminous surface treatment. (U. S. 10 A - Idaho Line E.).
104	F 193 (12)	9-30-63	5.6 miles grade, drain, surface, & plant mix bituminous surfacing. (Montana 16 - Medicine Lake N.).
105	F 157 (16) U 1	8-30-63	5.0 miles grade, drain, surface, plant mix bituminous & seal coat oiling. (Montana 22-N.W. of Miles City).
106	F-PG 68 (12) U 1	9-1-64	2.7 miles (four-lane divided) grade, drain, surface, plant mix bituminous surface, Signing & delineation. (U.S. 10A - E. of Anaconda).
	F-PG 68 (12) U 2	10-31-63	Four prestressed concrete beam bridges, dual 70 ft. - Clark Fork and dual 148 ft. - NP. RR. (U. S. 10A - E. of Anaconda).
	ROW-F-PG 68 (8)	10-1-63	2.7 miles fencing. (U. S. 10A - E. of Anaconda).
	F 134 (6)	9-30-64	0.7 mile grade, drain, surface, & plant mix bituminous surface. (U. S. 212 - Laurel S.).
	F 67 (9)	10-1-63	1.6 miles grade, drain, surface, stabilized base surface, plant mix bituminous, seal coat oil. (U. S. 91 - Main Street in Conrad).
	F 149 (16)	9-15-63	9.7 miles grade, drain, surface & plant mix bituminous oiling. (U. S. 87 - N.E. of Great Falls).
110	U F 296 (15) U 1	10-1-63	4.2 miles (0.8 miles four-lane) grade, drain, surface & plant mix bituminous surfacing. (Montana 3 - Billings N.W.).
	F 187 (13), F 230 (7) & U 296 (14)	10-15-63	0.1 mile lighting and signing at intersection U.S. 10, 212, 87 & 312. (U. S. 10 - Billings).
111	F 149 (19) & 252 (15)	9-15-64	9.8 miles grade, drain, surface & plant mix bituminous surface. (U. S. 87 - S.W. of Fort Benton).
112	F 26 (6) U 2	8-30-63	1.6 miles seal coating. (U. S. 87 - Grass Range N.).
	F 103 (10) U 2	8-30-63	7.6 miles seal coating. (U. S. 191 - Roy E.).
	F 333 (27) U 3	8-30-63	9.7 miles seal coating. (Montana 19 - Grass Range Junction N.).
	F 333 (28) U 2	8-30-63	3.9 miles seal coating. (U.S. 191 - Roy Junction N.).
113	F 76 (7)	9-15-63	20.6 miles plant mix bituminous surfacing. (U. S. 191 - N. of W. Yellowstone).
114	FHP 32-1 (1) *	1963	26.9 miles plant mix bituminous surfacing. (U.S. 89 - S. of Nehart).
115	U FG 228 (16)	11-30-63	1.5 miles grade, drain, cement stabilized base, surface, concrete pavement, plant mix bituminous, seal coat oil. One concrete underpass - NP RR. (U. S. 10 - In Billings).
116	F 238 (8) U 1	8-30-63	8.5 miles grade, drain, surface, plant mix bituminous & seal coat oiling. (Montana 287 - N. of Wolf Creek).
117	ROW F 28 (3)	9-1-63	5.8 miles fencing. (U. S. 87 - S. of Grass Range).
	F 28 (4)	9-15-63	5.8 miles grade, drain, surface, & plant mix bituminous surfacing. (U. S. 87 - S. of Grass Range).
118	U 149 (15)	10-31-63	0.4 mile (0.1 mile four-lane divided) grade, drain, surface, plant mix bituminous surface. (U. S. 87 - ByPass - Great Falls N.).
	U FG 395 (6)	10-31-63	1.5 miles (1.1 mile four-lane divided) grade, drain, surface, plant mix bituminous & concrete pavement. Two concrete underpasses-GN RR. & Smelter Avenue. (U.S. 87 - ByPass - Great Falls N.).
119	F 235 (25)	10-15-63	7.5 miles grade, drain, surface, plant mix bituminous surface. One 81 ft. prestressed concrete beam bridge-OtterCreek.(U.S.87-W. of Stanford).
	F 235 (31)	10-15-63	4.0 miles plant mix bituminous surfacing. (U. S. 87 - W. of Stanford).
120	F 114 (5)	9-1-64	2.4 miles grade, drain, surface, & plant mix bituminous surfacing. (Hysham connection to Interstate).
121	F FG 219 (16) U 2	8-30-63	One 173 ft. prestressed concrete beam overpass - NP. RR. (U. S. 10 A - N.W. of Missoula).
	F FG 219 (16) U 1	10-30-63	9.8 miles grade, drain, surface & plant mix bituminous surfacing. (U. S. 10 A - N.W. of Missoula).
122	U 112 (3) U 229 (15) & U 235 (32)	8-30-63	2.0 miles grade, drain, surface, plant mix bituminous & seal coat oiling. One 30 ft. concrete slab bridge - Big Spring Creek. (Montana 20 - Lewistown Main Street).
123	F 191 (20) U 1	9-1-63	7.3 miles (2.5 miles grade & drain) surface, plant mix bituminous & seal coat oiling. (U.S. 93 - N. of Polson).
	F 191 (22)	8-30-63	7.3 miles seeding & mulching. (U. S. 93 - N. of Polson).
124	F 260 (7) & F 353 (8)	9-15-63	5.8 miles grade, drain, surface, plant mix bituminous & seal coat oiling. (U. S. 2 - W. to E. of W. Glacier).
125	F 13 (6) U 2	8-30-63	4.0 miles seal & cover oiling. (U. S. 89 - Livingston S.).
126	FHP 43-1 (1) *	1963	5.8 miles grade, drain, surface, & bituminous surface treatment. (U. S. 89 - N. of Gardiner).
127	F 184 (15)	8-30-63	1.1 miles seeding & mulching. (U. S. 10 - N. of Deer Lodge).
128	F 43 (15) U 2	8-30-63	31.4 miles seal & cover oiling. (Montana 43 - W. to E. of Ralston).
129	F 217 (12) U 2 & F 217 (13) U2	8-30-63	24.0 miles seal & cover oiling. (U. S. 89 - S. to N. of Emigrant).
130	F FG 215 (7)	8-30-63	0.3 miles four-lane divided, grade, drain, surface, plant mix bituminous & seal coat oiling. One 972 ft. steel & concrete bridge - CMET&P RR. and Clark Fork. (U. S. 93 - In Missoula).
131	F 185 (6) U 2	9-15-63	0.3 miles seal coating. (U. S. 10 - W. of Livingston).
132	F 87 (12)	9-30-63	9.9 miles plant mix bituminous surfacing. (Montana 28 - Hot Springs N. & S.).
133	F 153 (8)	10-1-63	9.0 miles grade, drain, surface & plant mix bituminous surfacing. (U. S. 2 - E. of Dodson).
134	F 176 (7)	7-30-64	5.3 miles grade, drain, surface & plant mix bituminous surfacing. (Montana 20 - E. of Simms).
135	F 42 (1) U 3	9-15-63	9.2 miles seal coating. (Montana 43 - Wisdom W.).
136	F 214 (3) U 2	9-15-63	1.0 mile seal coating. (U. S. 12 - In Helena).
137	F 103 (12)	9-15-63	20.4 miles plant mix bituminous surfacing. (U. S. 191 - Hilger to Roy).
138	F 210 (3)	10-30-63	6.0 miles plant mix bituminous surfacing. (U. S. 89 - N.W. of Browning).
	F 227 (5)	10-30-63	4.0 miles plant mix bituminous surfacing. (U. S. 89 - N.W. of Browning).
	F 227 (6)	10-30-63	4.3 miles grade, drain, surface, and plant mix surfacing. (U. S. 89 - N.W. of Browning).
139	FHP 13-3 (1) *	1963	4.1 miles grade, drain & base. One 60 ft. reinforced concrete bridge-Bear Cr. One 26 ft. concrete slab bridge-Devil Cr.(U.S.2-SW-E.Glacier).
140	F 209 (4)	9-15-64	5.5 miles grade, drain, aggregate & plant mix bituminous surface. Four 20 ft. concrete bridge. (U. S.191 - W. of Bozeman).
141	F 86 (20) U 2	8-30-63	0.8 miles seal coating. (U. S. 312 - Miles City S.).
142	F 315 (16) U 1	9-30-63	11.4 miles grade, drain & surface. (Montana 24 - S.E. of Fort Peck).
	F 315 (16) U 2	10-30-63	One 133 ft. prestressed concrete beam bridge - Nelson Creek. (Montana 24 - S.E. of Fort Peck).
143	F 156 (10) U 2	8-30-63	2.6 miles seal coating. (U. S. 312 - S. of Miles City).
	F 156 (11) U 3	8-30-63	10.6 miles seal coating. (U. S. 312 - S. of Miles City).
	F 84 (30)	9-15-63	10.9 miles seal coating. (U. S. 2 - Bainville E.).
	F 157 (19)	7-15-64	10.9 miles, grade, drain, surface, & plant mix bituminous surface. Widen one 164 ft.-Concrete T Beam Bridge to 28 ft. roadway S. Fork Sunday Creek. One 122 ft-prestressed concrete beam bridge-N. Fork Sunday Creek. (Montana 22 - N.W. of Miles City).

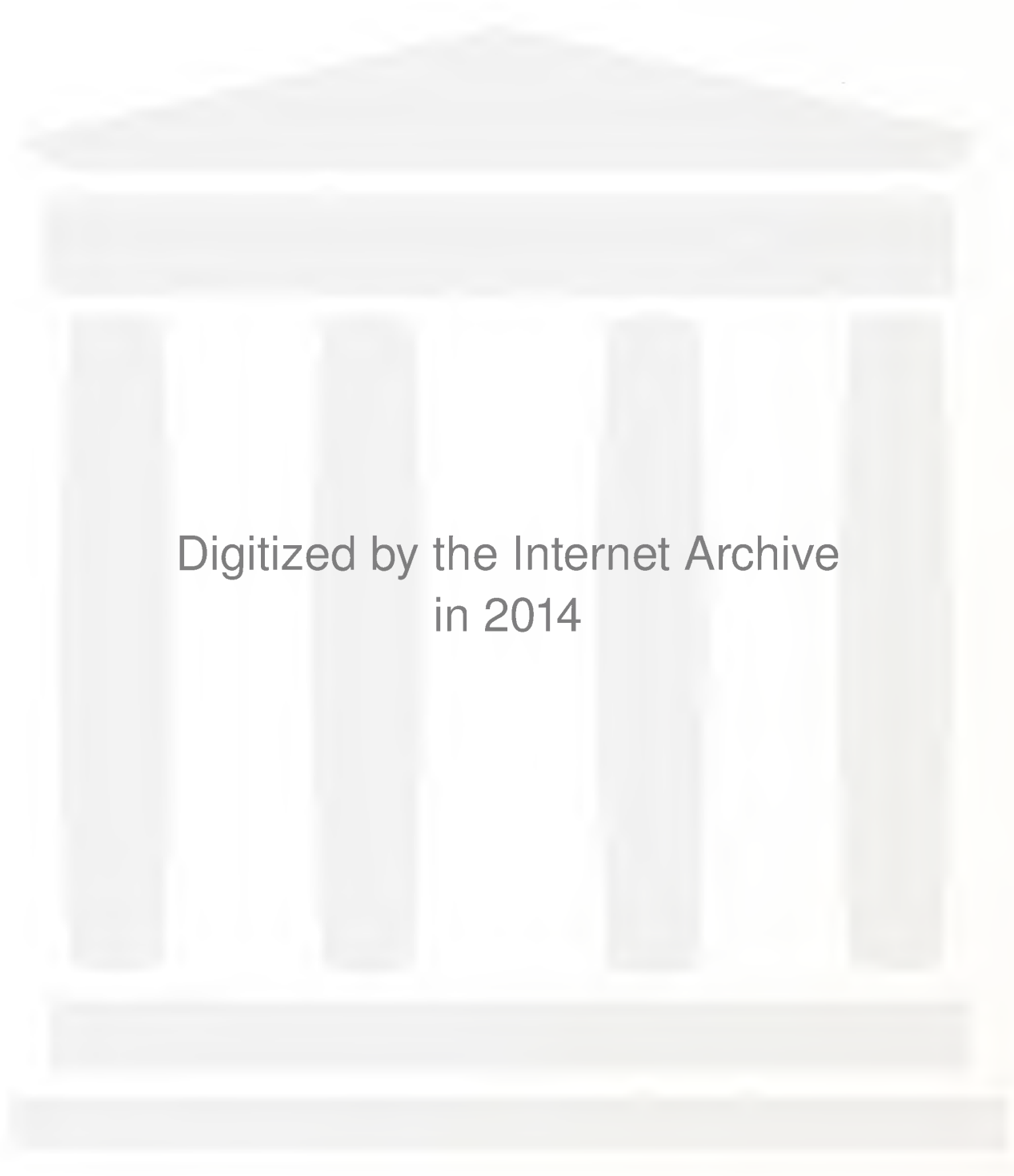
FEDERAL AID SECONDARY PROJECTS

201	S 45 (6)	9-30-63	One 215 ft. prestressed concrete beam bridge - Tongue River. (S. W. of Garland).
202	S 131 (3) U 1	8-30-63	6.5 miles grade, drain, surface & plant mix bituminous surfacing. (E. of Brady).
203	S 236 (8)	8-30-64	1.2 miles, grade, drain, surface. One 562 ft. riveted plate girder bridge. (N. of U.S. 10 & Montana 47).
204	ROW S 412 (2)	10-31-63	3.7 miles fencing. (E. Helena, Southerly).
	S 412 (3)	10-31-63	3.7 miles grade, drain, surface & plant mix bituminous surfacing. (E. Helena, Southerly).
205	S 207 (3)	8-30-63	3.9 miles grade, drain, surface, plant mix bituminous & seal coat oiling. (Wyoming Line N.- S. of Busby).
206	S 192 (3)	9-30-63	Dual prestressed concrete beam bridges - I 90 Separation. (S. W. of Billings).
207	FHP 5-1 (1) 2 (2) *	1963	13.8 miles plant mix bituminous surfacing. (S. of Troy).
208	S 264 (3)	8-30-63	5.3 miles grade, drain, & surface. (N.E. of Van Norman).
209	FHP 11-1 (1) & S 391-1 FH *	1963	32.5 miles grading, drainage & base. Raising of three timber bridges-Lolo Creek. (U. S. 12 - Lolo to Idaho State Line).
210	S 325 (1) U 1	8-30-63	3.4 miles grade, drain, surface & plant mix bituminous surfacing. (S. W. of Libby).
211	ERFO 42 (1) *	1963	7.1 miles (3.5 miles grading) drain, surface & plant mix bituminous surfacing. (N.W. of W. Yellowstone).
212	S 290 (12)	8-31-63	1.7 miles grade, drain, surface, plant mix bituminous, & seal coat oil. One 708 ft. riveted plate girder bridge - Missouri River. (Fort Benton - S. E.).
213	S 266 (4)	9-1-63	10.5 miles, grade, drain, surface, plant mix bituminous & seal coat oiling. (N. of Browning).
	ROW S 266 (2)	9-1-63	10.5 miles fencing. (N. of Browning).
214	S 65 (6)	10-1-63	4.9 miles grade & drain. One 245 ft. prestressed concrete beam bridge - Swan River. (S. of Big Fork E.).
215	ROW S 370 (13)	8-30-63	Reset 239 rods of fencing. (W. of Wilsall).
	S 370 (15)	9-30-63	6.7 miles, grade, cement stabilized base, drain, plant mix bituminous & seal coat oiling. (W. of Wilsall).
216	S 159 (4)	9-1-63	7.5 miles (partial grading) drain, surface, & plant mix bituminous surfacing. (Dodson S.).
217	S 304 (8)	9-30-63	7.4 miles (0.8 miles grading) aggregate & plant mix bituminous surfacing. (Galen S.W.).
218	S 316 (7)	9-30-63	0.4 miles grade, drain, aggregate & plant mix bituminous surfacing. Concrete curb & gutter. (In Cut Bark).
219	S 85(00) U1 & S 85 (3) U 1	7-31-64	12.0 miles grade, drain, & surface. (Armstead W.).
	S 85(00) U2 & S 85 (3) U 2	11-31-63	Three prestressed concrete beam bridges. One 92 ft. & 71 ft.-Horse Prairie Cr. One 71-ft-Medicine Lodge Cr. (Armstead W.).
220	S 28 (7) & S 28 (8)	9-30-64	8.8 miles grade, drain, & aggregate surfacing. (McLeod S.W.).
221	S 129 (8)	11-15-63	7.0 miles grade, drain, surface, & plant mix bituminous surfacing. (Rapelje S.).
222	S 259 (2)	9-15-63	9.0 miles grade, drain, surface, plant mix bituminous, seal coat oil. One 38 ft.-treated timber trestle bridge - Sand Cr. (N.E. - Forsyth).
223	S 290 (16) & S 307 (12)	7-1-64	4.9 miles grade, drain, surface, & plant mix bituminous surfacing. Widen three timber bridges. (N. of Geraldine S.).
224	S 2 (15) U 1	10-30-63	1.8 miles, grade, drain, surface, plant mix bituminous & seal coat oiling. (N' of Helena).
225	S 200 (5)	9-15-63	13.2 miles (part aggregate surface) plant mix bituminous surface. (Froid W.).
226	S 213 (4)	9-30-63	0.9 miles, grade, drain, surface, & plant mix bituminous & seal coat oiling. (E. of Butte).
227	S 326 (4)	10-15-63	5.1 miles, grade, drain, & surface. One 102 ft. prestressed concrete beam bridge - Otter Cr. (E. of Ashland S.).
228	S 361 (12)	7-15-64	6.6 miles grade, drain, surface, & plant mix bituminous surfacing. (Girard W. to E.).
229	S 49 (7) U 2	8-30-63	9.0 miles seal coating. (White Sulphur Springs N.W.).
230	S 12 (9)	8-30-63	4.9 miles grade, drain, surface, plant mix bituminous & seal coat oiling. (Harlem N.).
231	S 6 (4) U 2	9-15-63	7.0 miles seal coating. (N. of Townsend).
232	S 339 (9) U 1	8-30-63	6.5 miles, grade, drain, surface, plant mix bituminous & seal coat oiling. (S. of Chester).
233	S 291 (6) U 2	9-15-63	5.4 miles seal coating. (N. of Avon).
234	S 398 (2)	8-30-63	9.6 miles, grade, drain, & surface. (N.W. of Baker).
235	S 9 (9) U 2	8-30-63	8.5 miles seal & cover oiling. (S. E. of Boulder).
236	S 377 (2)	9-15-63	4.0 miles, grade, surface, plant mix bituminous & seal coat oiling. (Whitefish N.).
237	S 330 (1) U 2	9-15-63	2.5 miles seal coating. (East Helena S. W.).
238	S 66 (2) U 2	8-30-63	1.2 miles seal & cover oiling. (Emigrant S. E.).
239	S 273 (3) U 2	8-30-63	0.8 miles seal & cover oiling. (N.E. of Emigrant).
240	S 13 (5) U 2	9-15-63	5.3 miles seal coating. (Rudyard N.).
241	S 82 (1) U 2	9-15-63	5.9 miles seal coating. (Choteau N.).
242	S 290 (13) U 2	9-15-63	9.5 miles seal coating. (N. of Geraldine).
243	S 301 (8) U 2	9-15-63	5.0 miles seal coating. (N. of Havre).
244	S 136 (2) U 2	8-30-63	10.6 miles seal coating. (Belfry S.).
	S 260 (3) U 2	8-30-63	11.4 miles seal coating. (Lodge Grass S.W.).
	S 73 (4) U 2	8-30-63	8.4 miles seal coating. (E. of Reserve).
	S 368 (17)	7-16-64	8.7 miles aggregate, plant mix bituminous surface & seal coating. (N. of Glasgow).
248	S 402 (3)	9-15-63	7.8 miles grade, drain, surface, plant mix bituminous & seal coat oiling. (N.E. of Culbertson).
249	S 239 (2) U 2	8-30-63	13.4 miles seal coating. (Nashua N.).
250	S 121 (4)	11-15-63	11.6 miles (1.0 mile grade & drain) aggregate & plant mix bituminous surfacing. (Utica to Hobson).
251	S 322 (7)	11-1-63	6.3 miles, grade, drain, surface & plant mix bituminous surface. (E. of Hardin).

OFF SYSTEM PROJECTS

301	FHP 2 A2, B2, 12 A2*	1963	7.2 miles grading & aggregate base. (Two-Medicine Road & Approach - N.W. of E. Glacier).
303	R AD 7 (1) *	1963	8.7 miles grading, drainage & aggregate surfacing. (Brooks E.).
304	FHP 59-2(1)&FL 59(1),(2)*	1963	8.7 miles, grading, drainage, aggregate & plant mix bituminous surfacing. (S. of Red Lodge).

* - Bureau of Public Roads Projects.



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Supervision's Responsibilities

(Continued from Page 4)

visor is overlooking the potential and individuality of the subordinate. This could cause low achievement.

Another cause of low achievement may be the boss's lack of confidence in the employee's abilities. If the supervisor focuses all of his attention on a man's shortcomings, he will be constantly trying to prevent them from hurting the operation, and by doing this he will be shielding the man from the risk and challenge necessary to his growth. By controlling his actions the supervisor makes the man dependent on the boss, and he will destroy the subordinate's ability to take decisive action. It is a downward spiral, the boss sees the man as not being very competent, he adjusts the system to compensate for it and the man's failings become real, forcing the supervisor to make further compensation, etc.

At the bottom of the spiral the individual loses all initiative, responsibility, and sense of achievement. He merely thinks of the organization as a place where he puts in his time and picks up his paycheck. The boss rightly evaluates him as not caring much for his job, but perhaps some of the fault lies with the boss himself.

The boss must also be receptive to change and new ideas. He cannot have a static outlook, or the habit of freezing people in their present activity and ignoring their potential for moving ahead. To promote this the boss should ask for suggestions and views from his subordinates, and if valid, act on them.

It is even possible that a supervisor may *want* to retard the growth of a subordinate. He may feel vaguely (and illogically) that if a subordinate performs well, he may become a threat to his own job. Undefined as this fear is, it will conflict with the boss's desire to be fair and give due credit.

In this article it may seem that if an employee does not progress, all the blame lies with the supervisor. This is not the case though, and next month we will discuss how employees hurt their own chances for advancement by their stubbornness or negative approach to their work. Remember, all people learn by making mistakes.

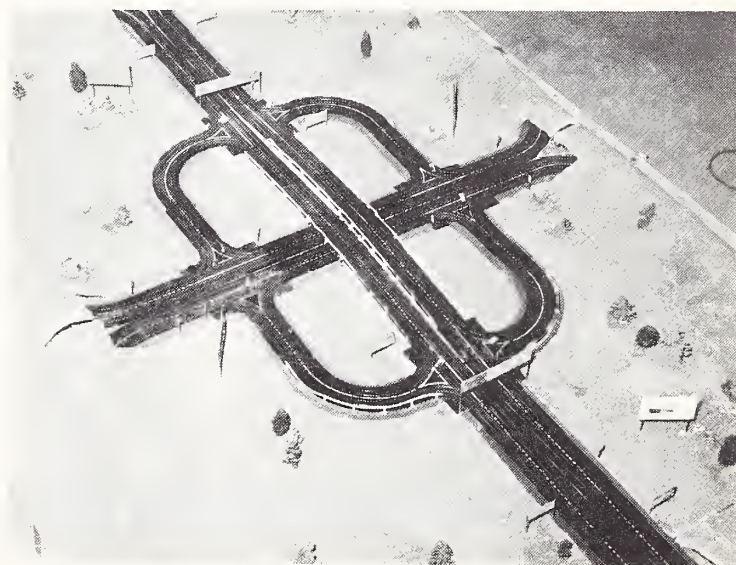
HI-HO, COME TO THE FAIR

The Highway Department is going to the fairs too, with our traveling exhibits.

This year we have a model cloverleaf interchange, built to H-O gauge specifications, and with model cars demonstrating traffic movements on the interchange.

This display made its debut at the Montana Winter Fair in Bozeman early this spring, and was viewed with extreme interest by practically every fair visitor.

The photo gives an idea of what such an interchange would look like from the air.



The display was made under the direction of Jonas Johnson, of the Public Information Coordinator's staff, ably assisted by Stan Mongrain, Art Zion, Swede Lindgren, Ken Martello and Jim Hahn.

We also are planning to take the exhibit to the AAA convention in Glacier Park.

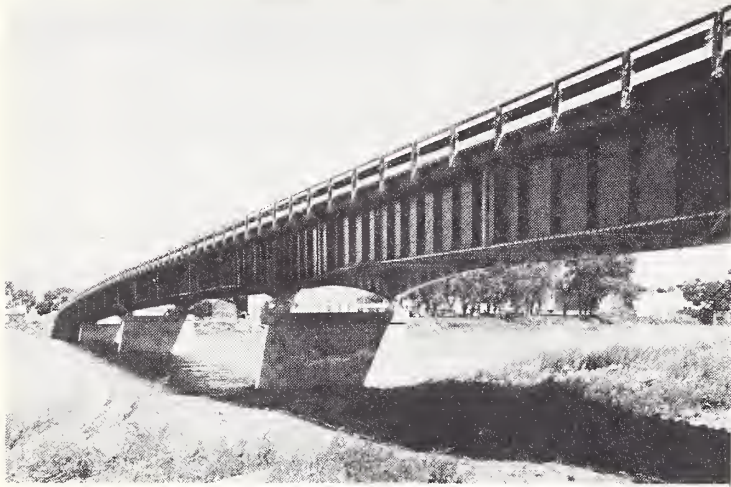
George Sime, Public Information Coordinator, feels this is one of the best ways to tell the Highway story to the general public.

In order to give them a portion of that story to take home with them, an informational pamphlet has been prepared by Jonas Johnson, and illustrated by Ken Martello, showing types of interchanges used on interstate highways, some of the signs which the motorist will encounter, and tips for safe driving.

Other exhibits include our Diaramas on highway litter, snow removal, and shooting of signs; a display of maps, and numerous photos including aerials of many of the cities and towns in Montana. Johnson, Martello, and Roger Bosse will be in charge of the exhibits.

CHOTEAU COUNTY BRIDGE DEDICATED

All of Choteau County joined in to celebrate the completion and opening of the big 708 foot bridge and 1.6 miles of newly constructed secondary No. 230 on the fourth of July.



The celebration marked the opening of the new river span replacing one of the oldest bridges in the state. The bridge which was replaced was constructed in 1888, one year before Montana became a state, and except for twice, when portions of the old bridge gave way, it has been in continuous service since that date, and the only connecting link between the two halves of one of Montana's largest counties. The occasion also marked the near completion of a new wide hard surfaced highway linking Geraldine and Fort Benton.

The new bridge was financed by county and federal funds and was built by N. A. Nelson Company of Sheridan, Wyoming, the Montana Highway Engineers cooperating.

Vice Chairman Stanley Halvorson of the Commission dedicated the bridge and Orvin Fjare, State Advertising Director, was the principal speaker at the typical old fashioned fourth of July celebration.

ED DALAKOW RETURNS TO DEPARTMENT

Ed Dalakow, who was in the Bridge Division many years ago, has returned to the Highway Department as a liaison between Bridge and Right of Way, and will work both Divisions in providing for land, access and egress at bridge sites.

NEWS FROM THE DIVISIONS

Glendive

We would like to extend a hearty welcome to Kenneth D. Thompson who has been added to our Right-of-Way staff as a Right-of-Way Agent 1 as of May 1, 1963. Mr. Thompson hails from North Dakota where he worked as an appraiser with the North Dakota Highway Department. Kenneth has a wife (Janet) and one lovely small daughter.

Bozeman

Congratulations are in order for the Jay Randalls who are the proud parents of a baby boy born June 20th. The little guy weighed nine pounds and one-half ounce and has been named Bruce Clark Randall. The Randalls also have a little girl. Mr. Randall was attending a two-week reserve encampment in Washington at the time.

The Bozeman Division is again proud to announce that another man has been promoted to Project Engineer. Latest to receive the promotion is Richard W. Saltzman who has been with the department since 1952. Mr. Saltzman and his crew are presently located in a field office at the four corners eight miles west of Bozeman.

Mrs. Harold Roby, wife of Harold Roby, stockman, and their daughter, Christine, have left for Merry Old England for a six weeks trip. While there they plan to assist Mrs. Roby's mother with the final plans to return with them to make her home in Bozeman.

A former employee of the Bozeman Highway Division, Merle Young who is presently residing in Salinas, California, visited personnel in the Bozeman office while here on vacation.

We would like to send our congratulations to the Gene Phiefer's on the arrival of their baby girl.

Two members of our personnel have recently become Fathers-in-law and they are Hup Davis, Office Manager, whose daughter was married in May and Billy Ford, Shop Foreman, whose son was married in June.

Wolf Point

Duane J. Novakovich has been promoted to Project Engineer. W. Henry Butzlaff and Charles L. Worley have become Instrumentmen. Our congratulations and best wishes to these fellows in their new assignments.

Great Falls

The personnel in the Great Falls Division wish Don G. Braach much success in his new assignment in the Lewistown design section.

New employees in the R/W section include Clarence Christensen, Deed Writer and Edward Piprude, R/W trainee. Jack McDonald has been promoted to District Review Appraiser. Welcome and congratulations to you men.

Butte

Back again for the summer construction period is Bill Hawke, Science Teacher and

Weight Coach for the Butte Public High School. Bill has been a regular summer employee with the Butte Soils Laboratory for the past seven years, and is happy to be back rolling down the P.I's. The Butte Laboratory personnel are happy to see Bill back again this year and also happy for his accomplishments with his son, Robert, who has gained National recognition for his athletic dexterity in the Discus and Shot events. Robert, a sophomore, under the supervision of his father, Bill, placed first in the National Junior Olympics for the Discus Event. Also with a heave of 182 ft. 10 inches placed third in the open division for the whole United States. Bob placed sixth in the nation for the indoor classic shot event with a heave of 57 ft. 8 $\frac{3}{4}$ inches. Payton Jordan, Athletic Olympic Coach from Stanford University, has taken a great interest in Bob's achievements and considers him a great prospect for Stanford University and future Olympic Teams.

Left—Labor Coordinator John Knachel explains to Jannette Magnus, from the Public Information Department, while Harold Treadway looks on, that temporary coffee-cart pushers should have a wage classification, and should be paid union scale for such tasks. He indicates that when coffee is available so that it can be consumed without taking a "coffee break", the saving in man power is justifiable enough to substantiate a good wage scale for those who "peddle the brew".



The newly completed 8 $\frac{1}{2}$ miles of highway on Montana Highway 287 at the Dearborn Bridge was dedicated on July 18th. The Dearborn Bridge is located about 13 miles north of Wolf Creek. The Bridge was completed on November 1, 1962 for \$133,734.



MEN AND MACHINES—1919

These pictures taken June 10, 1919 show how early day construction of highways was accomplished.

The following captions explain this series of photos:

Top—Heavy Gumbo section - improved timber drag drawn by engines used to pulverize elevator built grade to such extent as to permit operation of engine with blade on top of grade.

Center—Effect of dragging once over with timber drag drawn by two engines. This process pulverizes the large lumps of gumbo thereby filling voids in loose elevator made fill and permits placing engine and blade grade.

Bottom—Note in front of drag, results once over, behind drag, results obtained by return trip. Grade now ready for shaping with blade drawn by tractor, some team blade work "trimming", then the roller with one "two Up" fresno operated by one man with a reasonable amount of common sense, filling slight inequalities of grade which result necessarily in all elevator fills, due to variation in borrow pit sections and variation in materials handled.

TIPS FOR SAFE DRIVING

Slightly different techniques are called for in driving on the Interstate Highway:

If you miss your turnoff, *do not stop or back up*. Continue on to the next interchange. Check gauges frequently, especially for speed and to see that you have sufficient fuel.

Allow extra space for higher speed passing, signalling your intention well in advance. After passing, return to your lane only after you are able to see the car you have passed in the rear view mirror.

Don't stay in the blind spot at the side and toward the rear of other cars. Either pass or fall back.

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